

REMARKS

Claims 1-27, 30 and 37 are pending in this application. Claims 1, 14, 15, 30 and 37 are previously presented. Claims 2-13, 16-18, 24 and 25 are original. Claims 19-23, 26 and 27 are withdrawn as being directed to a non-elected invention. Claims 28, 29, 31-36 and 38-54 have been cancelled. No amendments are made in this response.

Applicants' invention is double-face velour fabric article comprising a knitted fabric body having a technical face, formed by a filament stitch yarn, and a technical back, formed by a filament loop yarn. The filament stitch yarn comprises heat sensitive material. The knitted fabric body has a velour surface formed at both the technical back and the technical face, and the heat sensitive material of the filament stitch yarn responds to application of heat during processing to increase tortuosity of air flow paths through the knitted fabric body formed by interstices defined among the filament stitch yarn and the filament loop yarn of the knitted fabric body, with a result of the knitted fabric body having relatively reduced permeability, e.g. of about $110 \text{ ft}^3/\text{ft}^2/\text{min}$ or less under a pressure difference of $\frac{1}{2}$ inch of water across the knitted fabric body.

Claims 1-9, 16-18, 25, 30 and 37 stand rejected under 35 U.S.C. under §103(a) as being obvious and therefore unpatentable over Lombardi et al. U.S. 4,103,518 in view of Ploch et al. U.S. 3,837,943. Claims 10-13 stand rejected under 35 U.S.C. under §103(a) as being obvious and therefore unpatentable over Lombardi et al. '518 in view of Ploch et al. '943, and further in view of Richards et al. U.S. 5,557,950. Claim 24 stands rejected under 35 U.S.C. under §103(a) as being obvious and therefore unpatentable over Lombardi et al. '518 in view of Ploch et al. '943, and further in view of Callaway U.S. 5,520,022. Claims 14 and 15 stand rejected under 35 U.S.C. under §103(a) as being obvious and therefore unpatentable over Lombardi et al. '518 in view of Ploch et al. '943 and Richards '950, and further in view of Wood et al. US Pub. No. 2002/0124365. We respectfully traverse.

Lombardi et al. '518 describes a machine for knitting fabrics having terry loops at one or both surfaces. The double face terry knit fabric is formed in usual fashion, i.e., by knitting together yarns to form a single layer, planar fabric of interengaged loops with air flow paths through the knitted fabric body formed by the interstices defined among the interengaged loops

of the knitted fabric¹. The loops may be sheared to form a double face knitted velour fabric (col. 1, lines 10-27), e.g., of structure similar to Applicants' base fabric. However, as acknowledged by the Examiner, Lombardi et al. '518 provides no teaching, nor any suggestion, for Applicants' invention of including heat sensitive material in the yarns of the knitted fabric that responds to application of heat during processing to increase tortuosity of air flow paths formed by interstices defined among interengaged loops of the yarns of the knitted fabric, with a result of the knitted fabric having relatively reduced permeability, e.g. of about 110 ft³/ft²/min or less under a pressure difference of ½ inch of water across the knitted fabric body.

Ploch et al. '943 describes a compound fabric product and method commencing with a single layer, planar fabric (the "base fabric") upon which is placed a second layer consisting of yarns or fiber materials extending lengthwise to the fabric in the plane of the fabric. The layer of yarns or fibers is then sewn upon the base layer by longitudinally extending parallel seams (col. 1, lines 3-11), e.g. of quilt stitch or chain stitch (col. 1, lines 24-28). Thereafter, the yarns of the second layer are slit along the regions between the parallel rows of quilt stitch or chain stitch (col. 1, lines 20-23).

The Examiner notes that Ploche et al. '983, at col. 1, lines 13-15, refers to a related patent (Ploch et al. U.S. 3,168,883) in which it is suggested that the single-layer, planar base fabric upon which the yarns or fibers are sewn may be a knitted fabric (col. 1, lines 40-45). In such case, the base fabric, being formed of interengaged loops of yarn, has air flow paths formed by interstices inherently defined among the interengaged loops of the yarn forming the knitted fabric.² However, as in Lombardi et al. '518, neither Ploch et al. '983 nor Ploch et al. '883 provides any teaching, nor suggestion, or even any mention, of Applicants' invention of including heat sensitive material in the yarns of the knitted base fabric that responds to application of heat during processing to increase tortuosity of the air flow paths through the interstices defined among interengaged loops of the yarns of the base fabric, with a result of the

¹ Webster's New Collegiate Dictionary defines "knitting" as "to form [with needles] by interlacing yarn or thread in a series of connected loops."

² The Examiner notes further in the Office action, "the [base] fabric [described by Ploch et al.] would not be impermeable and would have openings between the interwoven or interloped yarns just like [Applicants' knitted fabric]." (Office action, paragraph 8)

knitted fabric body having relatively reduced permeability, e.g. of about $110 \text{ ft}^3/\text{ft}^2/\text{min}$ or less under a pressure difference of $\frac{1}{2}$ inch of water across the knitted fabric body.

In fact, Ploch et al. '943 describes forming sewing threads fed through the Malimo stitching-knitting machine (for sewing the layer of yarns or fibers upon the base fabric surface) to include heat sensitive material. In one embodiment of a thread comprising three different types of filaments, the heat sensitive material in the threads, upon heat treating: softens, to bond the fibers, thread and base fabric; shrinks, to tighten the seams; and "[enables] a particularly bulky seam to fill the punctured holes in the base fabric" (col. 3, line 66 to col. 4, line 4). Thus while Ploch et al. '943 uses thread including heat sensitive material to fill punctured holes created by the sewing process, there is provided no teaching, nor suggestion, for including heat sensitive material in the yarns of the knitted base fabric for increasing tortuosity of air flow paths formed by the interstices inherently defined across the entire face of the knitted base fabric body among the interengaged loops of yarn forming the fabric body, with a result of the knitted fabric body having relatively reduced permeability, nor any teaching or suggestion for reducing the inherent permeability of the base fabric. In fact, there is no teaching or suggesting in Ploch et al. '943 for addressing air flow through the "openings between the interwoven or interloped yarns" of the base fabric mentioned by the Examiner.

Furthermore, the Examiner's suggestion that "Ploch et al. '943 is very close in structure to the knitted pile fabric of Lombardi et al. ['518]" is without basis. Lombardi et al. '518 describes a single layer knitted fabric, while Ploch et al. '943 describes a "compound fabric of the type having a base fabric upon which a layer of threads or fibers of a fiber fleece extending substantially perpendicular to the length of the base fabric are fastened by means of parallel seams of a stitching thread" (claim 1, col. 5, lines 9-13). What Lombardi et al. '518 and Ploch et al. '943 do have in common is that both describe knitted fabric products that include a single layer, planar knit fabric formed of interengaged loops of yarns, with air flow paths formed by interstices inherently defined across the entire face of a knitted fabric among interengaged loops of the knitted fabric, with no teaching or suggestion for including heat sensitive materials in the yarns of the fabric body and heat treating to increase the tortuosity of air flow paths through the interstices. As readily apparent, the fabric structures taught by Lombardi et al. '528 and Ploch et al. '943 are each markedly different in this last respect from the fabric structure of Applicants'

invention , and thus do not teach or suggest Applicants' invention of a fabric article with reduced permeability, e.g. , to about $110 \text{ ft}^3/\text{ft}^2/\text{min}$ or less under a pressure difference of $\frac{1}{2}$ inch of water across the knitted fabric body.

Neither Lombardi et al. '518 nor Ploch et al. '943 (or Ploch et al. '883), whether taken alone, or in any proper combination, teaches or suggests Applicants' invention of including heat sensitive material in the filament stitch yarn of the knitted fabric article, the heat sensitive material of the filament stitch yarn responding to application of heat during processing to increase tortuosity of air flow paths through the knitted fabric body, the air flow paths being formed by the interstices defined among interengaged loops of the filament stitch yarn and the filament loop yarn of the knitted fabric body, with a result of the knitted fabric body having relatively reduced permeability, e.g. of about $110 \text{ ft}^3/\text{ft}^2/\text{min}$ or less under a pressure difference of $\frac{1}{2}$ inch of water across the knitted fabric body. Furthermore, as noted in the earlier response, and not disputed by the Examiner, none of the other cited references provides teaching or suggestion for the features of Applicants' invention found lacking in Lombardi et al. '518 and Ploch et al. '943 and '883.

On this basis, we submit that this application is now in condition for allowance. Early favorable action is solicited.

Please apply any charges or credits to deposit account 06-1050.

Respectfully submitted,

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